

## RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

| Application Serial Number: | 09/786,6358 |
|----------------------------|-------------|
| Source:                    | 1FW/6       |
| Date Processed by STIC:    | 9/20/04     |

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FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER

VERSION 4:2 PROGRAM, ACCESSIBLE THROUGH, THE U.S. PATENT AND

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http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail. Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

- 1. EFS-Bio (<a href="http://www.uspto.gov/ebc/efs/downloads/documents.htm">http://www.uspto.gov/ebc/efs/downloads/documents.htm</a>> , EFS Submission User Manual ePAVE)
- 2. U.S. Postal Service: Commissioner for Patents, P.O. Box-1450, Alexandria, VA 22313-1450
- U.S. Patent and Trademark Office, 220 20<sup>th</sup> Street S., Customer Window, Mail Stop Sequence, Crystal Plaza Two, Lobby, Room 1803, Arlington, VA 22202

Revised 05/17/04





IFW16

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/786,635B

DATE: 09/20/2004 TIME: 16:18:10

Input Set: A:\LEA33298 - seq list 8-2004.txt
Output Set: N:\CRF4\09202004\1786635B.raw

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       <120> TITLE OF INVENTION: ATP binding cassette genes and proteins for diagnosis
              and treatment of lipid disorders and inflammatory
              diseases
      9 <130> FILE REFERENCE: ATP binding cassette genes and protein
C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/786,635B
C--> 12 <141> CURRENT FILING DATE: 2001-05-22
     14 <150> PRIOR APPLICATION NUMBER: 101706
     15 <151> PRIOR FILING DATE: 1998-09-25
     17 <160> NUMBER OF SEQ ID NOS: 54
     19 <170> SOFTWARE: PatentIn Ver. 2.0
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     23 <212> TYPE: DNA
                                                             Corrected Diskette Needed
     24 <213> ORGANISM: Human
     26 <220> FEATURE:
     27 <223> OTHER INFORMATION: cDNA of ABCA1 (ABC1)
                                                           ्राक्त चे के देशके विश्वविद्याली के अवेद्यां के स्वति का
     29 <400> SEQUENCE: 1
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55 aacaagtcca tggagctgct ggatgagagg aagttctggg ctggtattgt gttcactgga 1560
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DATE: 09/20/2004 TIME: 16:18:10

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Output Set: N:\CRF4\09202004\1786635B.raw

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151 <220> FEATURE:
152 <223> OTHER INFORMATION: Peptide sequence of ABCA1 (ABC1)
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RAW SEQUENCE LISTING DATE: 09/20/2004
PATENT APPLICATION: US/09/786,635B TIME: 16:18:10

Input Set : A:\LEA33298 - seq list 8-2004.txt
Output Set: N:\CRF4\09202004\1786635B.raw

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| 159  |            |             |      | 20   |                |          |          | -       | 25   |      |     |          |     | 30   |           | -           |
| 161  | Val        | Val         | Gly  | Asn  | Phe            | Asn      | Lys      | Ser     | Ile  | Val  | Ala | Arg      | Leu | Phe  | Ser       | Asp         |
| 162  |            |             | 35   |      |                |          |          | 40      |      |      |     |          | 45  | •    |           | _           |
| 164  | Ala        | Arg         | Arg  | Leu  | Leu            | Leu      | Tyr      | Ser     | Gln  | Lys  | Asp | Thr      | Ser | Met  | Lys       | Asp         |
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| 167  | Met        | Arg         | Lys  | Val  | Leu            | Arg      | Thr      | Leu     | Gln  | Gln  | Ile | Lys      | Lys | Ser  | Ser       | Ser         |
| 168  | 65         | -           | -    |      |                | 70       |          |         |      |      | 75  | -        | _   |      |           | 80          |
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| 171  |            |             |      |      | 85             |          |          |         |      | 90   |     |          |     |      | 95        | _           |
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| 174  |            |             |      | 100  |                |          |          |         | 105  |      |     |          |     | 110  |           |             |
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| 179  | Leu        | His         | Leu  | Thr  | Ser            | Leu      | Суз      | Asn     | Gly  | Ser  | Lys | Ser      | Glu | Glu  | Met       | Ile         |
| 180  |            | 130         |      |      |                |          | 135      |         |      |      |     | 140      |     |      |           |             |
| 182  | Gln        | Leu         | Gly  | Asp  | Gln            | Glu      | Val      | Ser     | Glu  | Leu  | Cys | Gly      | Leu | Pro  | Arg       | Glu         |
|      | 145        |             |      | _    |                | 150      |          |         |      |      | 155 |          |     |      |           | 160         |
|      | Lys        | Leu         | Ala  | Ala  |                | Glu      | Arg      | Val     | Leu  | _    | Ser | Asn      | Met | Asp  |           | Leu         |
| 186  |            |             |      |      | 165            |          | _        | _       | _    | 170  |     | _        |     | _    | 175       |             |
|      | rys        | Pro         | 11e  |      | Arg            | Thr      | Leu      | Asn     |      | Thr  | Ser | Pro      | Pne |      | ser       | Lys         |
| 189  | <b>a</b> 1 | <b>-</b>    |      | 180  |                | 451      | <b>.</b> | <b></b> | 185  |      |     |          | •   | 190  |           | _           |
|      | GIU        | Leu         |      | GIU  | ATA            | Thr      | гуs      |         | Leu  | ren  | HIS | ser      |     | GIY  | Thr       | Leu         |
| 192  | *7.        | <b>~1</b> ~ | 195  | T    | nh -           | <b>G</b> |          | 200     |      | m    | a   | <b>5</b> | 205 |      | <b>~1</b> | <b>03</b>   |
| 195  | ATR        | Gln<br>210  | GIU  | Leu  | Pne            | ser      | 215      | Arg     | ser  | тър  | ser | _        | met | Arg  | GIn       | GIU         |
| •    | V-7        |             | Dho  | T ou | Th.∽           | 7        |          | N am    | C.~~ | Com  | 0   | 220      | C   | mb   | ~1 m      | <b>71</b> 0 |
| 198  |            | Met         | FIIG | nea  | 1111           | 230      | va1      | ASII    | ser  | ser  | 235 | ser      | Ser | TIIÈ | GIN       | 240         |
|      |            | Gln         | Ala  | Val  | Sor            |          |          | val.    | Cva  | Člv. |     | Pro      | Glu | Glv  | œ1v       |             |
| 201  | -y-        | GTII        | nia  | Val  | 245            | n.y      | TIE      | var     | Cys  | 250  |     | PLO      | Gru | GIY  | 255       | GIY         |
|      | Leu        | Lys         | Tle  | Lvs  |                | T.en     | Asn      | Tro     | Tur  |      |     | Agn      | Agn | ጥህቍ  |           | פומ         |
| 204  | ,          | -, -        |      | 260  |                | 200      |          |         | 265  |      | op  | •        |     | 270  | <b>-</b>  |             |
|      | Leu        | Phe         | Glv  |      | Asn            | Glv      | Thr      | Glu     |      | Asp  | Ala | Glu      | Thr |      | Tvr       | Asn         |
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| 215  | Ġly        | Lys         | Ile  | Leu  | Tyr            | Thr      | Pro      | Asp     | Thr  | Pro  | Ala | Thr      | Arg | Gln  | Val       | Met         |
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| 219  |            |             |      | 340  |                |          |          |         | 345  |      |     | •        |     | 350  |           |             |
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| 222  |            |             | 355  |      |                |          |          | 360     |      |      |     |          | 365 |      |           |             |
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|      |            | qaA         | His  | Phe  | $\mathbf{Trp}$ |          | Gln      | Gln     | Leu  | qaA  | -   | Leu      | Asp | Trp  | Thr       | Ala         |
| 228  | 385        |             |      |      |                | 390      |          |         |      |      | 395 |          |     |      |           | 400         |
|      |            | •           |      |      |                |          |          |         |      |      |     |          |     |      |           |             |

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/786,635B

DATE: 09/20/2004 TIME: 16:18:10

Input Set: A:\LEA33298 - seq list 8-2004.txt
Output Set: N:\CRF4\09202004\1786635B.raw

|     |            |      |             |          |            |           |             |           |            | •              | _          |            | _        |            |        | _          |
|-----|------------|------|-------------|----------|------------|-----------|-------------|-----------|------------|----------------|------------|------------|----------|------------|--------|------------|
| 230 | Gln        | Asp  | Ile         | Val      |            | Phe       | Leu         | Ala       | Lys        | His            | Pro        | Glu        | Asp      | val        | GIn    | ser        |
| 231 |            |      |             |          | 405        |           |             |           | _          | 410            |            | 51         |          |            | 415    | 3          |
| 233 | Ser        | Asn  | Gly         |          | Val        | Tyr       | Thr         | Trp       |            | GIu            | Ala        | Pne        | Asn      | GIU        | Thr    | ABN        |
| 234 |            |      |             | 420      |            | _         |             | _         | 425        |                | 43         |            |          | 430        |        | 3          |
| 236 | Gln        | Ala  |             | Arg      | Thr        | Ile       | Ser         |           | Phe        | Met            | Glu        | Cys        | vai      | ASII       | ren    | ASI        |
| 237 |            |      | 435         |          |            | _ •       |             | 440       |            | _              | <b>-</b>   | #1 -       | 445      | T          | 0.44   | Mah        |
| 239 | Lys        |      | Glu         | Pro      | Ile        | Ala       |             | GIu       | vai        | Trp            | Leu        | 116        | Asn      | гав        | ser    | Mer        |
| 240 |            | 450  |             |          |            |           | 455         |           |            |                | <b>~</b> 7 | 460        | 77.7     | nh a       | mla sa | <b>~</b> 1 |
|     |            | Leu  | Leu         | qaA      | Glu        |           | Lys         | Phe       | Trp        | Ala            | Gly        | TTE        | vaı      | Pne        | THE    | 480        |
| 243 | 465        | _    |             | <b>4</b> | _          | 470       |             | _         |            |                | 475        | **- 1      | <b>T</b> | M          | T ***  |            |
| 245 | Ile        | Thr  | Pro         | Gly      |            | He        | GLu         | Leu       | Pro        | HIB            | His        | vaı        | гА≈      | IÀI        | 495    | TIE        |
| 246 |            |      |             |          | 485        | _         |             |           | •          | 490            | •          | <b>*</b>   | +1.      | *          |        | 01.        |
|     | Arg        | Met  | Asp         |          | Asp        | Asn       | Vai         | Gin       | Arg        |                | naA        | гăе        | TTE      | ±y≈<br>510 | Asp    | GLY        |
| 249 | _          |      | _           | 500      |            | _         | _           |           | 505        |                | nh.        | <b>61.</b> | 7 ~~     |            | N ra   | There      |
|     | Tyr        | Trp  |             | Pro      | GIA        | Pro       | Arg         |           | Asp        | Pro            | Phe        | GIU        | 525      | riec       | Arg    | TAT        |
| 252 |            | _    | 515         |          | _,         |           | _           | 520       | <b>~1.</b> | <b>&gt;</b>    | 17 1       | 37-3       |          | Cln        | פות    | T10        |
|     | Val        |      | GLY         | GIA      | Pne        | Ата       |             | Leu       | GIN        | Asp            | Val        |            | GIU      | GIII       | MIG    | 116        |
| 255 |            | 530  |             | _        |            |           | 535         | <b>~1</b> | <b>T</b>   | T              | (D) = ==   | 540        | 1747     | m :        | Mot    | Gl n       |
|     |            | Arg  | Val         | Leu      | Thr        |           | Thr         | GIU       | гля        | rys            | Thr<br>555 | GIY        | Vai      | ıyı        | MEC    | 560        |
| 258 | 545        |      |             |          | <b>5</b> + | 550       | TT:         | 11-7      | *          | ***            |            | Dhe        | Lan      | Dr.ca      | 17=1   |            |
|     | Gln        | Met  | Pro         | Tyr      |            | Сув       | Tyr         | vaı       | Asp        | 570            | Ile        | FIIE       | Dea      | мц         | 575    | Mec        |
| 261 | _          |      | <b>.</b>    |          | 565        | <b>*</b>  | Db -        | Mon       | mh w       |                | 7.7.a      | Trr        | Tla      | Tur        |        | val        |
|     | Ser        | Arg  | ser         |          | Pro        | Leu       | Pne         | met       | 585        | Den            | Ala        | ırþ        | 116      | 590        | Ser    | Val        |
| 264 |            |      | <b>-1</b> - | 580      | <b>T</b>   | <b>61</b> | 71.         | 17.7      |            | <i>(</i> 23.11 | Lys        | Glu        | a l a    |            | T.e.11 | Lvs        |
|     | Ala        | vaı  |             | TTÉ      | гув        | GIY       | 116         | 600       | TAT        | Gru            | цуs        | GIU        | 605      | ni g       | , 1144 | Lyo        |
| 267 | ~1         | mb = | 595         | 2 ~~     | T10        | Mat       | alv         |           | ) en       | λen            | Ser        | Tle        |          | Tro        | Phe    | Ser        |
|     | GIU        | 610  | Mec         | Arg      | 116        | MEC       | 615         | Dea       | voh        | Abii           | 501        | 620        |          |            |        |            |
| 270 | Mare       |      | τla         | Cor      | Sar        | T.011     |             | Pro       | Len        | Leu            | Val        |            | Ala      | Glv        | Leu    | Leu        |
|     | 625        | File | TTG         | Ser      | 361        | 630       | 110         | FIO       | 1100       |                | 635        |            |          | 1          |        | 640        |
| 275 | V23        | TeV  | 710         | T.e.11   | Lve        |           | Glv         | Agn       | ten        | Leu            | Pro        | Tvr        | Ser      | Asp        | Pro    | Ser        |
| 276 | Val        | Val  | 116         | DÇU      | 645        | Dea       | <b>0</b> -7 | ••••      |            | 650            |            | -1-        |          |            | 655    |            |
| 278 | Val        | va1  | Phe         | Val      |            | Len       | Ser         | Val       | Phe        |                | Val        | Val        | Thr      | Ile        | Leu    | Gln        |
| 279 | vai        | ***  | 1 110       | 660      |            |           |             |           | 665        | •              |            |            |          | 670        |        |            |
| 281 | Čvs        | Phe  | Len         |          | Ser        | Thr       | Leu         | Phe       |            | Arq            | Ala        | Asn        | Leu      | Ala        | Ala    | Ala        |
| 282 | C10        |      | 675         |          |            |           |             | 680       |            |                |            |            | 685      |            |        |            |
| 284 | Cvs        | Glv  |             | Ile      | Ile        | Tvr       | Phe         | Thr       | Leu        | Tyr            | Leu        | Pro        | Tyr      | Val        | Leu    | Сув        |
| 285 | -          | 690  |             |          |            | - 4       | 695         |           |            | -              |            | 700        | -        |            |        | _          |
|     |            |      | Tro         | Gln      | Asp        | Tvr       |             | Gly       | Phe        | Thr            | Leu        | Lys        | Ile      | Phe        | Ala    | Ser        |
| 288 |            | •    |             |          |            | 710       |             | •         |            |                | 715        | -          |          |            |        | 720        |
| 290 | Leu        | Leu  | Ser         | Pro      | Val        |           | Phe         | Glv       | Phe        | Gly            | Cys        | Glu        | Tyr      | Phe        | Ala    | Leu        |
| 291 |            |      |             |          | 725        |           |             |           |            | 730            | •          |            | _        |            | 735    |            |
|     | Phe        | Glu  | Glu         | Gln      |            | Ile       | Glv         | Val       | Gln        | Trp            | Asp        | Asn        | Leu      | Phe        | Glu    | Ser        |
| 294 |            |      |             | 740      | •          |           | •           |           | 745        | -              | -          |            |          | 750        |        |            |
|     | Pro        | Val  | Glu         |          | qaA        | Glv       | Phe         | Asn       | Leu        | Thr            | Thr        | Ser        | Val      | Ser        | Met    | Met        |
| 297 |            |      | 755         |          | - 1        |           |             | 760       |            |                |            |            | 765      |            |        |            |
|     | Leu        | Phe  |             | Thr      | Phe        | Leu       | Tyr         |           | Val        | Met            | Thr        | Trp        | Tyr      | Ile        | Glu    | Ala        |
| 300 | ,_ <b></b> | 770  |             |          |            |           | 775         | •         |            |                |            | 780        | -        |            |        |            |
|     | Val        |      | Pro         | Glv      | Gln        | Tyr       |             | Ile       | Pro        | Arg            | Pro        | Trp        | Tyr      | Phe        | Pro    | Cys        |
|     |            |      |             | •        |            | •         | •           |           |            | _              |            | _          | _        |            |        |            |

```
<213> Human
<2210>
                                                                         See p. 7.

for ever 

Aplanation

(h's need

Aplanation

in 22207-22237

section)
<223> human cDNA of ABCB9
<400> 3
gccaatdnea cggtttcatc atggaactcc aggacggcta cagcacagag acaggggaga 60
agggcgccca gctgtcaggt ggccagaagc agcgggtggc catggccgng gctctggtgc 120
ggaacccccc agtcctcatc ctggatgaag ccaccagege tttggatgcc gagagegagt 180
atotgatoca geaggecate catggeaace tgtcagaage acaeggtaet catcategeg 240
caccggetga geacegtgga geacgegeae eteattgtgg tgetggaeaa gggeegegta 300
gtgcageagg gcacccacca gcagettget tgccccaggg egggetttta eggcaageth \setminus 360
gttgcagcgg cagatgtggg gtttcaaggc cgcagacttc acagctggcc acaacgagcc 420
tgtagccaac gggtcacaag gcctgatggg gggcccctcc ttcgcccggt ggcagaggac 480
eeggtgeetg cetggeagat gtgeeeaegg aggttteeag etgeeetace gageeeagge 540
ctgcagcact gaaagacgac ctgccatgtc ccatgatcac cgctthtgca atcttgcccc 600
tqqtccctqc cccattccca qqqcactctt acccdnndct qqqqqatqtc caaqaqcata 660
gteeteteee eataceeete cagagaaggg getteeetgt eeggagggag acaeggggaa 720
egggatttte egtetetece tettgecage tetgtgagte tggecaggge gggtagggag 780
egtggaggge atetgtetge caattgeeeg etgeeaatet aageeagtet eaetgtgaee 840
acacgaaace tcaactgggg gagtgaggag etggccaggt etggaggggc etcaggtgee 900
eccagecegg cacecagett tegeceeteg teaateaace eetggetgge ageegeeete 960
occacacceg eccetgiget eigetgietg gaggecaegt ggacetteat gagaigeatt 1020
ctcttctgtc tttggtggaff gggatggtgc aaagcccagg atctggcttt gccagaggtt 1080
gcaacatgtt gagagaaccc ggtcaataaa gtgtactacc tcttacccct
```

<210> 3 <211> 1130 <212> DNA

Cost

The types of errors shown exist throughout the Sequence Listing. Please check subsequent sequences for similar errors.

7

VARIABLE LOCATION SUMMARY

PATENT APPLICATION: US/09/786,635B

DATE: 09/20/2004 TIME: 16:18:11

Input Set : A:\LEA33298 - seq list 8-2004.txt
Output Set: N:\CRF4\09202004\I786635B.raw

eno eplanation

Use of n's or Xaa's (NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing.
Use of <220> to <223> is MANDATORY if n's or Xaa's are present.
in <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

Seq#:3; N Pos. 8,109,360,586,636,637,638,1040

Seq#:4; N Pos. 944,950,957,970,1001,1002,1003,1007

Seq#:13; N Pos. 4208,4210,4211,4212,4227,4228,4229,4231,4253,4677,4691,4707

Seq#:13; N Pos. 4721,4752,4754,4772,4773

Seg#:20; N Pos. 5,2909

Seq#:25; N Pos. 1963

Seq#:31; N Pos. 856,1009,1128,1314,1326,1328,1343,1345,1346,1378,1415,2477

Seq#:31; N Pos. 2540

Seq#:54; N Pos. 856,1009,1128,1314,1326,1328,1343,1345,1346,1378,1415,2477

Seg#:54; N Pos. 2540

## VERIFICATION SUMMARY

PATENT APPLICATION: US/09/786,635B

DATE: 09/20/2004 TIME: 16:18:11

Input Set: A:\LEA33298 - seq list 8-2004.txt
Output Set: N:\CRF4\09202004\1786635B.raw

L:11 M:270 C: Current Application Number differs, Replaced Application Number L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:579 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:3 L:579 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:3 L:579 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0 M:341 Repeated in SeqNo=3 L:623 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:4 L:623 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:4 L:623 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:900 M:341 Repeated in SeqNo=4 L:1205 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:13 L:1205 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:13 L:1205 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:4200 M:341 Repeated in SeqNo=13 L:1577 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:20 L:1577 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:20 L:1577 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0 M:341 Repeated in SeqNo=20 L:1720 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:25 L:1720 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:25 L:1720 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:1920 L:1986 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:31 L:1986 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:31 L:1986 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:840 M:341 Repeated in SeqNo=31 L:2289 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:54 L:2289 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:54 L:2289 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:840 M:341 Repeated in SeqNo=54